



Linguistics

The Phonological Deviations: An Error Analysis of the Indonesian EFL Learners' Pronunciation

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ABSTRACT

The phonological deviation refers to the deviation of the phonological system from the target language norms. This research aims to reveal the causes of deviations in English pronunciation produced by the English college students' pronunciation. The phonological deviations in producing consonants and vowels were discovered and their causes were revealed extensively. The results of the research were several deviations voiced consonants, voiceless consonants, short vowels, and long vowels. The phonological deviations included the change from /ʒ/ into /ʃ/*, /z/ into /s/*, /v/ into /s/*, /θ/ into /t/*, /ʃ/ into /s/*, /æ/ into /e/*, /əʊ/ into /o/*, /ɒ/ into /o/*, /u:/ into /u/*, and /i:/ into /i/*.

The causes of these errors were the interlingual and intralingual factors. The interlingual factors occurred when the participants' habits in using the phonological patterns, systems, or rules prevented the participants from acquiring the correct phonological patterns or rules of the target language. On the other hand, the intralingual factors occurred when the participants did not know the phonological patterns or rules in the target language well. This research used a qualitative method. It is intended to describe and explain the participants' ability in English pronunciation based on the recorded and collected data and facts, which are then analyzed systematically to get conclusions.

I. INTRODUCTION

English teachers and lecturers in all academic levels of education in Indonesia find the equal problems of students' poor English pronunciation. The incorrect ways of pronouncing the consonants and vowels, especially those which are not existing in Indonesian, are the most prevalent problems. Some students are even not aware of their making errors. Do their pronunciation errors occur randomly or are there some phonological deviation patterns that poor students assume they have pronounced the English words correctly? The present study assumed that faulty perception might result in the persistent production of the erroneous consonants and vowels. The relation between perception and the decoding of written language have been well established (Grabe, 1978; Otto, 1977; Steinheiser & Guthrie, 1977, Mason, 1975; Gibson & Levin, 1975; Gibson, 1965).

Unlike the previous researchers who focused on analyzing the acquisition of the English phonological system (Navehebrahim, 2020), and on investigating the pronunciation difficulty of selected English consonant clusters (Al-Yami and Al-Athwary, 2021), and investigating the interlanguage speech intelligibility benefit (Uzun, 2022), the present study aims at revealing the phonological deviations and causes of the deviations in English pronunciation produced by the college English learners. By analyzing

the patterns and the weaknesses of learners in pronouncing the correct English pronunciation, it is hoped that this research will be able to expose the real pronunciation problems to the teachers or lecturers in all levels of education.

The purpose of the present research was (a) to look for the patterns of the phonological deviation from the target language norms, and (b) to infer the general causes of the phonological deviation of the subjects' pronunciation from the target language norms.

In the class situation, the ability of the students to use the correct pronunciation is paramount important. The students must be able to improve their pronunciation. They must be able to use media such as the Internet, the dictionary, and the books on pronunciation. They must not depend on the lecturers and teachers. They must motivate themselves to improve their pronunciation.

Two limitations of the present research should be noted. First, the research was limited to the spoken language, not written language. The next limitation was the subject's perception and patterns of phonological deviation, not the correct English speech sounds produced by the subjects.

II. METHOD

The research is a qualitative research. The method used in this research was the descriptive method. In this case, descriptive means the research aimed at describing and explaining the phonological phenomena based on the data and facts collected without justification which was then systematically arranged for further analysis to get detailed, reliable and deep conclusions.

Participants and the task

Participants in this research were a group of students consisted of 20 freshmen. They were non-English majors. They were asked one by one to read 37 sentences. Then, the researchers recorded their speech sounds and tried to listen to their pronunciation repeatedly in order to find the phonological deviations occurred during the reading process.

The data

The data in this research contained 20 recordings collected in the English class majoring in Agribusiness. All the recordings were used with the permission of the subjects concerned.

Analytical framework

The structure of monosyllabic/polysyllabic words as pointed out by Giegerich (2005, pp. 137-147) was used as the analytical framework to analyze the subjects' speech sounds. The writer focused on the monosyllabic/polysyllabic words that occurred in the data as the basic unit of analysis. For example, the structure of monosyllabic word 'boy' might be analyzed as follows:

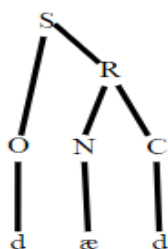


Figure 1. Giegerich's syllable structure diagram

Here, *syllable* (S) may be separated as the vowel /æ/ which is called the *onset* (O), /æ/ is the *nucleus* (N) as the peak of the syllable, and /d/ is the *coda* (C). The peak may be preceded by a consonant; we shall call this part of the syllable the onset. Following the peak may be a consonant, referred to as the coda. And perhaps most importantly, we shall group the peak and the coda together and call the resulting unit the *rhyme* (R) of the syllable. The diagram was used as the correct form compared to the deviated form as pronounced by the subjects. For example,



Figure 2. Giegerich's syllable structure diagram

The above diagrams were used to analyze the phonological deviations committed by the subjects. Furthermore, the causes of the phonological deviation were traced by using the contrastive analysis hypothesis (CAH) initially proposed by Lado (1957). Under this concept, linguistic features between two languages are systematically compared in order to determine potential errors in L2 learning contexts. The CAH predicts that linguistic differences between two languages would be difficult for L2 learners, whereas similarities would not. In second language (L2) phonology, a number of studies (Bada 2001, Dickerson 1975, Jehma & Phoocharoensil 2014, Flege 1995, Shahidi, Aman & Kechot 2012, Tarone 1979) have been conducted through various approaches to explain how learners acquire phonological structures in their interlanguage.

Procedures

The following procedure was used in the analysis of the Subjects' pronunciation: (1) Distributing a list of 37 sentences to the subjects and asking them one by one to read aloud the sentences (2) Recording the speech sounds of the subjects with a cellular phone and a video recorder, and jotting down the notes. The researcher determined which English consonants and vowels changed in the subjects' English pronunciation using participant observation. The English pronouncing Longman Dictionary was used to determine the correct English pronunciation, (3) Classifying the data based on Giegerich's theory of the syllable structure, (4). Conducting descriptive analyses to identify the pattern of the deviated forms that occurred in the data analyzed.

III. RESULTS AND DISCUSSION

Types of phonological deviation

By using the Giegerich's syllable structure to investigate how the 20 college students committed a phonological deviation in pronouncing certain English words, it was found that there were several types of phonological deviations: deviation of voice consonants, deviation of voiceless consonants, deviation of short vowels, and deviation of long vowels. They can be described as follows:

Deviation of voiced consonant

All of the subjects pronounced /ʒ/ in *vision* /vɪʒn/ incorrectly. They changed /ʒ/ into /ʃ/ such as in /vɪʃn/* in the second syllable. It is clearly shown in the following diagram:

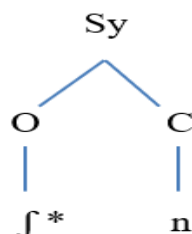


Figure 3. Giegerich's syllable structure diagram

Here, in the second syllable (Sy) it is obvious that /ʃ/* occurring in the onset (O) was a deviated form of /ʒ/, followed by correct nasal /n/, a coda (C). Based on the International Phonetic Alphabet Chart or the IPA Chart, consonants /ʒ/ and /ʃ/ are postalveolar. They are in the same place of articulation but different in voicing in which /ʃ/ is a *voiceless* postalveolar consonant, on the other hand, /ʒ/ is a *voiced* postalveolar consonant. Normally if followed by a vowel the ending *-sion* in English is pronounced /

ʒn/ in state of /ʃn/*. Therefore, changing /ʒ/ into /ʃ/* is deviated from the English phonological rules. This is due to the intralingual factor in which the subjects were unaware of the English phonological norm. Furthermore, it is also due to the difference between the English and Indonesian phonological systems in which Indonesian does not have consonant /ʒ/. That is why the Indonesian EFL learners found it difficult to pronounce /ʒ/. Furthermore, the complexity of the English pronunciation made them difficult in determining whether it was pronounced /ʒ/ or /ʃ/*. It seems they overgeneralized the English phonological rule that all the words ending in *-tion* is pronounced /ʃn/. This is a truth, but they must be careful that not all words ending in *-sion* is pronounced /ʃn/. In the English phonological rule, the ending *-sion* is pronounced /ʒn/ if it is preceded by a vowel.

The other phonological deviation was that some of the subjects pronounced /z/ in *needs* /ni:dz/ incorrectly. In this case they changed /z/ into /s/* and pronounced it /ni:ds/*. This can be shown in the following diagram:

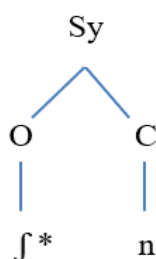


Figure 4. Giegerich's syllable structure diagram

Here, it is clear that /d/ and /z/ are in the same coda (C) and there occurs the assimilation process that made the subjects difficult to determine whether it was pronounced /s/ or /z/ and made them break the English phonological rule. In the English assimilation rule, the plural suffix /z/ occurs if it is preceded by a vowel or a voiced consonant (Katamba, 1989). The plural suffix /s/, on the other hand, occurs if it is preceded by a voiceless consonant. In this case, /d/ is a voiced consonant. As a result, the phonological deviation occurred.

Additionally, the intralingual factor in which the subjects lack of the knowledge of the English assimilation rules caused the occurrence of the deviated pronunciation of /z/. Other deviated pronunciation of the inflectional suffix found was in pronouncing *things*, *tears*, *towards*, *says*, *ways*, *kinds*, *keys*, *pictures*, *goggles*, *tells*, *friends*, and *worms*. This proved that the assimilation process in the English plural markers is complicated for the Indonesian EFL learners.

The deviation of voiced consonant also included the way the subjects pronounced the consonant /v/. Some of the subjects pronounced /v/ in *service* /sɜ:vɪs/ erroneously. They pronounced the word /sɜ:fɪs/*. In pronouncing this word, they changed /v/ into /f/* in the second syllable. This was the interference of the subjects' native language because the voiced labiodental consonant /v/ does not exist in Indonesian. They can be described in the following diagram:

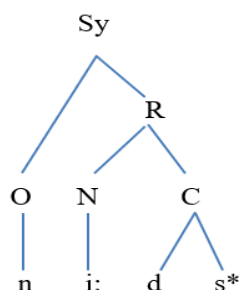


Figure 5. Giegerich's syllable structure diagram

Here, it is clear that in the second syllable (Sy) the occurrence of the deviated form of /v/ was /f/*. The deviated /f/* occurred in the onset (O) followed by the correct /ɪ/, a nucleus (N), and /s/, a coda (C) under the rhyme (R). In the IPA Chart, the consonants /v/ and /f/ are in the same place of articulation, i.e. labiodental. They are different merely in voicing: /v/ is a voiced labiodental fricative but /f/ is a

voiceless labiodental fricative. The interlingual factor played an important role in which the subjects' native language interfered the target language.

Deviation of voiceless consonant

Most of the deviation of voiceless consonants occurred in pronouncing the voiceless fricative consonants. One of the voiceless fricative consonants, /θ/, occurred most frequently. For example, in pronouncing the consonant /θ/ in *think* /θɪŋk/ the subjects mostly pronounced it /t/*, i.e. /tɪŋk/*. They found it difficult to pronounce it because the consonant /θ/ does not exist in the Indonesian phonological system. They were not familiar with this consonant and they found it difficult to pronounce it correctly because in producing an interdental fricative consonant they must be able to put their tip of the tongue between the upper teeth and lower teeth. They changed it into /t/*, a voiceless stop alveolar because they put their tip of the tongue in the alveolar ridge instead. According to Ellis (1997) this is caused by the intralingual factor in which they lack of the knowledge of the correct English pronunciation.

The occurrence of the deviated form of /t/* in *think* /tɪŋk/* was in the onset part of the syllable structure. The change of /θ/ into /t/* can be described as follows:

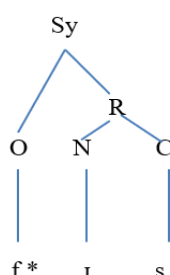


Figure 6. Giegerich's syllable structure diagram

Here, it is clear that the deviated form of /t/* occurred in the onset part of syllable followed by a vowel /ɪ/, a nucleus (N), and consonant /ŋ/ and consonant /k/, under the coda (C). The deviated form of /t/* occurred due to the interlingual factor in which the subjects were not able to produce the consonant /θ/. Besides, it also resulted from the subjects' native language.

The next problem of pronouncing the voiceless consonant was that the subjects felt reluctant to pronounce /ʃ/. They pronounced *finish* /fɪnɪʃ/ incorrectly. Some of them pronounced it /fɪnɪs/*. In this case, they changed the voiceless postalveolar fricative /ʃ/ into the voiceless alveolar fricative /s/*. This change can be illustrated in the following diagram:

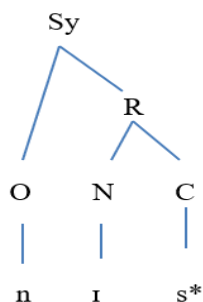


Figure 7. Giegerich's syllable structure diagram

Here, it is clear that the deviation of the voiceless postalveolar fricative /ʃ/ into the voiceless alveolar fricative /s/* occurred in the coda (C) level of syllable structure of the second syllable of *finish*. In this instance, the deviated form of /s/* occurred because of the voiceless postalveolar fricative /ʃ/ does not exist in the Indonesian phonological system. They were not used to pronounce it. Besides, this is caused by the interference of the subjects' native language.

Deviation of short vowel

The English vowels are more complicated than the Indonesian. This type of deviation was caused by the subjects' incorrect pronunciation of the vowels that do not exist in the Indonesian vowel systems. They pronounced the word *tackle* /tækəl/ inaccurately. Most of them pronounced it /tekl/*. They changed

/æ/ into /e/*. The following diagram may illustrate the phonological deviation:

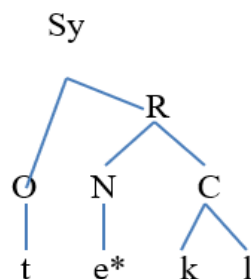


Figure 8. Giegerich's syllable structure diagram

Here, it is clear that the deviation of the short vowel /e/* occurred in the nucleus level of the syllable structure. This phonological deviation might be caused by the absence of the vowel /æ/ in the Indonesian vowel system, so they were not accustomed to pronounce the vowel /æ/. This is called the negative transfer of their native language pronunciation (Jehma, H. & Phoocharoensil, S. 2014; Gass and Selinker, 2008). Besides, the interlingual factor also influenced some of the subjects due to the short vowel /æ/ in Indonesian. So, they are not familiar with this vowel.

The next deviation of short vowel resulted from the fact that English pronunciation is not always correlated to the word spelling. In Indonesian we pronounce the word as it is written. For instance, *soto* is pronounced /soto/. In British English, on the other hand, 'o' is not pronounced /o/ but /əʊ/. The native speaker of British English would pronounce *go* /gəʊ/, not /go/*. In addition, the English vowel pronunciation is not consistent. In pronouncing *problem* /prɒbləm/, the subjects pronounced it /problem/*. In this context, there were two phonological deviations: /o/* and /e/*. Other examples were *most* /məʊst/ became /most*/, *on* /ɒn/ became /on*/, *those* /ðəʊz/ became /zos*.

Deviation of long vowel

The deviation of long vowel occurred frequently. In pronouncing *flute* /flu:t/ some of the subjects pronounced it /flut/*. They changed the long vowel /u:/ into a short one, /u/*. It can be described in the following diagram:

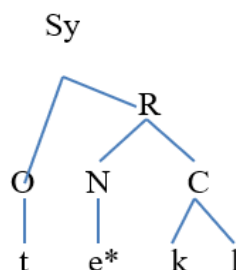


Figure 9. Giegerich's syllable structure diagram

Here, it is obvious that the deviation of long vowel occurred in the nucleus part of the syllable structure of the word. Other example found was *theme* /θi:m/. Most of the subjects pronounced it /θim*. They changed the long vowel /i:/ into a short one /i/*. Here, there is nothing to do with the interlanguage factor because the subjects' native language also has this vowel. But the intralingual factor may play an important role in making the phonological deviation. Other example was *teacher* /ti:tʃə/. Some of the subjects pronounce it /tiʃər*.

IV. CONCLUSION

This paper conducted a research on EFL undergraduate students at the Faculty of Agriculture at Universitas Andalas (UNAND) to investigate the phonological deviation on their English pronunciation. Based on the above analysis it was found that the phonological deviations included the change from /ʒ/ into /ʃ/*, /z/ into /s/*, /v/ into /s/*, /θ/ into /t/*, /ʃ/ into /s/*, /æ/ into /e/*, /əʊ/ into /o/*, /ɒ/ into /o/*, /u:/ into /u/*, and /i:/ into /i/*. All types of the above phonological deviations were caused by the

interference of the subjects' native language, the complexity of the English pronunciation, and the lack of the subjects' knowledge of the English phonological rules. Other significant causes were the intralingual and interlingual factors. It is hoped that these findings will be helpful to language education practitioners and learners, and provide references and guidance for future related research.

REFERENCES

- Al-Yami, Erman M. & Al-Athwary, Anwar A. H. (2021). Phonological Analysis of Errors in the Consonant Cluster System Encountered by Saudi EFL Learners. *Theory and Practice in Language Studies*, 11, 10, 1237-1248.
- Bada, E. (2001). Native Language Influence on the Production of English Sounds by Japanese Learners. *The Reading Matrix*. Vol. 1(2), 1-15.
- Dickerson, L. (1975). The Learner's Interlanguage as a System of Variable Rules. *TESOL Quarterly*. Vol. 9(4), 401-407.
- Ellis, Rod. (1997). *Second Language Acquisition*. Oxford; Oxford University Press.
- Flege, J. E. (1995). Second Language Speech Learning: Theory, Findings, and Problems. In W. Strange (Ed.), *Speech Perception and Linguistic Experience: Issues in Cross-Language Research* (pp. 233-277). Baltimore: York Press.
- Gass, Susan & Selinker, L. (2008). *Second Language Acquisition: An Introductory Course*. (Third Ed.), London: Routledge.
- Gibson E. J. & Levin H. (1975). *The Psychology of Reading*. Cambridge, Mass: The M.I.T. Press.
- Gibson, E. J. (1965). Learning to Read. *Science*, 148, 1066-1072.
- Giegerich, Heinz, J. (1992). *English Phonology: An Introduction*. New York: Cambridge University Press.
- Grabe, M. D. (1978). Processing of Visual and Name Codes in Good and Poor Readers. *Contemporary Educational Psychology*, 3, 69-76.
- Jehma, H. & Phoocharoensil, S. (2014). L1 Transfer in the Production of Fricatives and Stops by Pattani-Malay Learners of English in Thailand. *Asian Social Science*. Vol. 10(7), 67-78
- Katamba, Francis. (1989). *An Introduction to phonology*. London: Longman.
- Lado, R. (1957). *Linguistics across Cultures*. Ann Arbor: University of Michigan Press.
- Mason, M. (1975). Reading Ability and Letter Search Time: Effects of orthographic structure defined by single-letter positional frequency. *Journal of Experimental Psychology: General*, 104, 146-166.
- Navehebrahim, M. (2012). An investigation on Pronunciation of Language Learners of English in Persian Background: Deviation Forms from the Target Language Norms. *Procedia – Social and Behavioral Science*, 69, 518 -525.
- Otto, J. (1977). Reading cue utilization by low-achieving college freshmen. *Journal of Reading Behaviour*, 9, 71-84.
- Shahidi, A. H., Aman, R., & Kechot, A. S. (2012). Production and perception of English word final stops by Malay speakers. *GEMA Online® Journal of Language Studies*. Vol. 12(4), 1109-1125.
- Steinheiser, R., & Guthrie, J. T. (1977). Perceptual and linguistic processing of letters and words by normal and disabled readers. *Journal of Reading Behavior*, 9, 217-225.
- Tarone, E. (1979). Interlanguage as chameleon. *Language Learning*. Vol. 29(1), 181-191.
- Uzun, Tarik. (2022). The Interlanguage Speech Intelligibility Benefit for Turkish Speakers of English. *Journal of Language Education and Research*. 8 (1), 77-87.